Parts Manual
823171
06/02/2011

Quackenbush®

158QGDA Series
Right Angle Positive Feed Drills

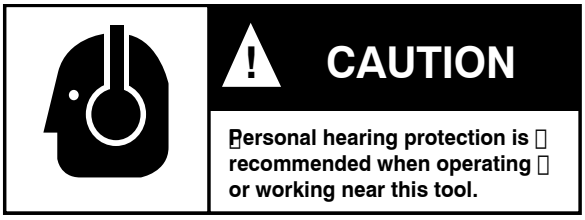
For additional product information visit our website at http://www.apextoolgroup.com

Safety Recommendations

For your safety and the safety of others, read and understand the safety recommendations and operating instructions.

Always wear protective equipment:

For additional information on eye and face protection, refer to Federal OSHA Regulations, 29 Code of Federal Regulations, Section 1910.133., Eye and Face Protection, and American National Standards Institute, ANSI Z87.1, Occupational and Educational Eye and Face Protection. Z87.1 is available from the American National Standards Institute, Inc., 11 West 42nd Street, New York, N.Y. 10036.



Hearing protection is recommended in high noise areas, 85 dBA or greater. The operation of other tools and equipment in the area, reflective surfaces, process noises and resonant structures can substantially contribute to and increase the noise level in the area. For additional information on hearing protection, refer to Federal OSHA Regulations, 29 Code of Federal Regulations, Section 1910.95, Occupational Noise Exposure, and American National Standards Institute, ANSI S12.6, Hearing Protectors.

Follow good machine shop practices. Rotating shafts and moving components entangle and entrap, and may result in serious injuries. Never wear long hair, loose-fitting clothes, gloves, ties, or jewelry when working with or near a drill of any type.

CAUTION

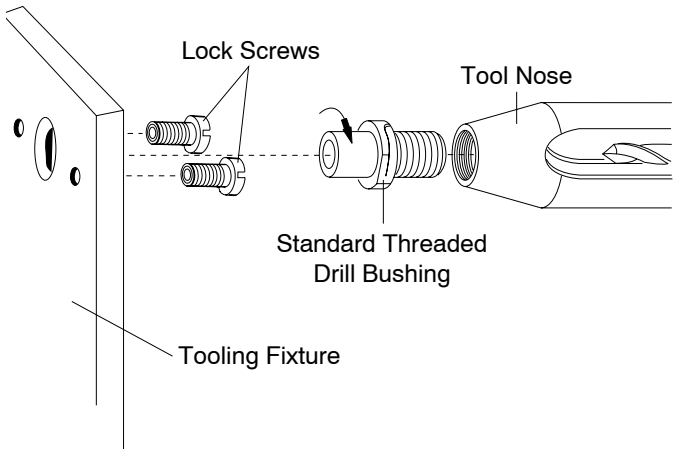
- Quackenbush drills are designed to operate on **90psig (6.2 bar) air pressure**. Excessive air pressure can increase the loads and stresses on tool parts and drills, and may result in breakage. The installation of a filter-regulator-lubricator in the air supply line is highly recommended.

- Before removing a tool from service or changing drill bits, make sure the air line is shut off and drained of air. This will prevent the tool from operating if the throttle is accidently engaged.

- Cutting tools used with these Quackenbush drill motors are sharp. Handle them carefully to avoid injury.

CAUTION

Before mounting any positive feed drill, check the lock screws in the tooling fixture and drill bushing. Make sure both are in good condition and securely tightened.



Positive feed drills can exert high torques and high thrust loads. If failure of the lock screws or drill bushing occurs, the drill may suddenly spin and back away from the drill fixture.

Warning Labels

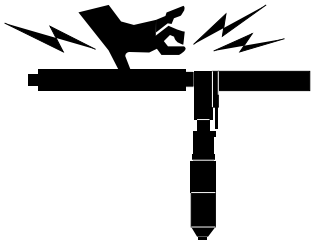
The warning labels found on these tools are essential parts of this product. Labels should not be removed. Labels should be checked periodically for legibility. Replace warning labels when missing or when the information can no longer be read. Replacement labels can be ordered from the manufacturer.

Safety Recommendations

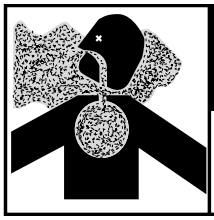
⚠ CAUTION

The spindle on right angle positive feed drills retracts at a much faster rate than it feeds. Care should be taken to avoid entrapment. Nose pieces usually used with these drills are generally slotted for visibility and access to chuck, cutter, and retract stop adjustments. A spindle guard should be used when operating tool. Spindle guards in one inch increments are available to accommodate any length spindle. Slotted spindle guards are available for tools with fluid swivels.

⚠ WARNING



Keep hands and fingers away from slot in spindle guard and nose piece when handling or operating tool.



⚠ WARNING

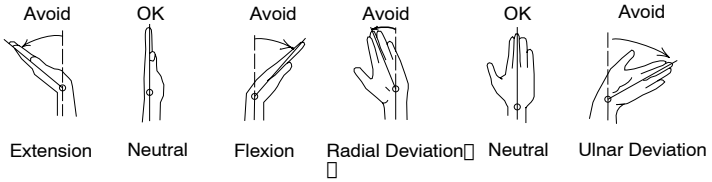
Wear respirator where necessary.

Drilling or other use of this tool may produce hazardous fumes and/or dust. To avoid adverse health effects utilize adequate ventilation and/or a respirator. Read the material safety data sheet for any cutting fluids or materials involved in the drilling process.

⚠ WARNING

- Most dusts are combustible. See material safety data sheets for combustibility of a specific dust.
- Non ferrous metal dusts are particularly haxardous.
  Examples: Aluminum, Magnesium, Titanium, Zirconium
  (Never collect Magnesium in a dry dust collector)
- Never collect spark generating material in the same dust collector with combustible material.
  Examples: Collecting both Steel and Aluminum dust or Steel and Titanium dust.
- Never use flamable finishing lubricants.

Some individuals are susceptible to disorders of the hands and arms when exposed to tasks which involve repetitive work motions. Those individuals predisposed to vasculatory or circulatory problems may be particularly susceptible. Cumulative trauma disorders such as carpal tunnel syndrome and tendinitis may be caused or aggravated by repetitious, forceful exertions of the hands and arms. These disorders develop gradually over periods of weeks, months, and years.



- **Tasks should be performed in such a manner that the wrists are maintained in a neutral position, which is not flexed, hyper-extended, or turned side to side.**

- **Stressful postures should be avoided and can be controlled through tool selection and work location.**

Any tool operator should be aware of the following warning signs and symptoms so that a problem can be addressed before it becomes a debilitating injury. Any user suffering prolonged symptoms of tingling, numbness, blanching of fingers, clumsiness or weakened grip, nocturnal pain in the hand, or any other disorder of the shoulders, arms, wrists, or fingers is advised to consult a physician. If it is determined that the symptoms are job related or aggravated by movements and postures dictated by the job design, it may be necessary for the employer to take steps to prevent further occurrences. These steps might include, but are not limited to, repositioning the workpiece or redesigning the workstation, reassigning workers to other jobs, rotating jobs, changing work pace, and/or changing the type of tool used to minimize stress on the operator. Some tasks may require more than one type of tool to obtain the optimum operator/tool/task relationship.

The following recommendations will help reduce or moderate the effects of repetitive work motions. The operator of any drill should:

- Use a minimum hand grip force consistent with proper control and safe operation
- Keep body and hands warm and dry
- Avoid anything that inhibits blood circulation
  - — Smoking Tobacco
  - — Cold Temperatures
  - — Certain Drugs
- Avoid awkward postures
- Keep wrists as straight as possible
- Interrupt work activities, or rotate jobs to provide periods free from repetitive work motions.

OPERATING INSTRUCTIONS

OPERATION
The tool is designed to operate on 90 psig (6.2 bar) air pressure using a 1/2" hose.

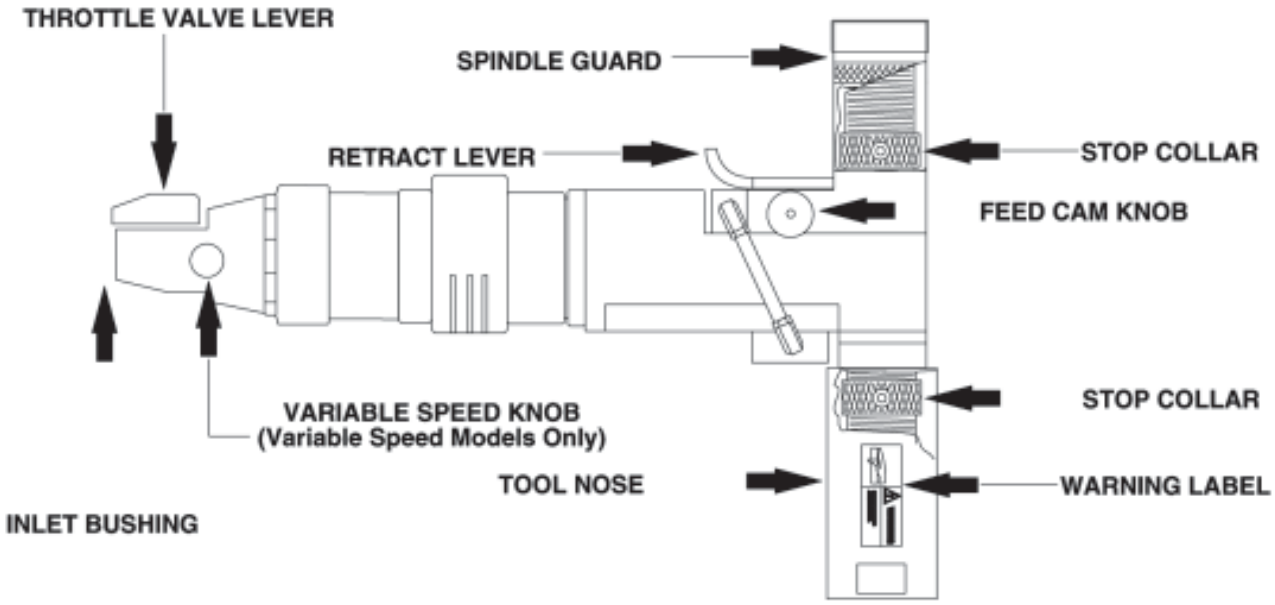
Important: Before installation or removal of a cutter or such accessory, the tool should be disconnected from the air supply line, or the air supply should be shut off and drained.

The power unit is started by turning the throttle valve lever. The speed can be varied on variable speed models by turning the variable speed knob. The feed mechanism is engaged by depressing the feed cam knob while the tool is running at a low R.P.M. The spindle will automatically retract when the stop collar depresses the retract lever. The spindle may be manually retracted at any stage by pulling up on the retract lever. The tool should be shut off before the spindle is completely retracted.

LUBRICATION
An automatic in-line filter-regulator-lubricator is recommended as it increases tool life and keeps the tool in sustained operation. The in-line lubricator should be regularly checked and filled with a good grade of 10W machine oil. Proper adjustment of the in-line lubricator is performed by placing a sheet of paper next to the exhaust ports and holding the throttle open approximately 30 seconds. The lubricator is properly set when a light stain of oil collects on the paper. Excessive amount of oil should be avoided.

STORAGE
In the event that it becomes necessary to store the tool for and extended period of time (overnight, weekend, etc.), it should receive a generous amount of lubrication at that time and again when returned to service. The tool should be stored in a clean and dry environment.

When the angle head is serviced, the recommended grease is "Lubriplate #907. Use a good "O"-ring lubricant on all "O"-rings when servicing the tool.



NOTE: Warning Labels can be ordered using part no. 202691.

⚠ WARNING **Eye protection must be worn when disassembling tool or when air line is turned on. A self relieving valve in close proximity to the repair station to bleed off air is recommended.**

SERVICE INSTRUCTIONS

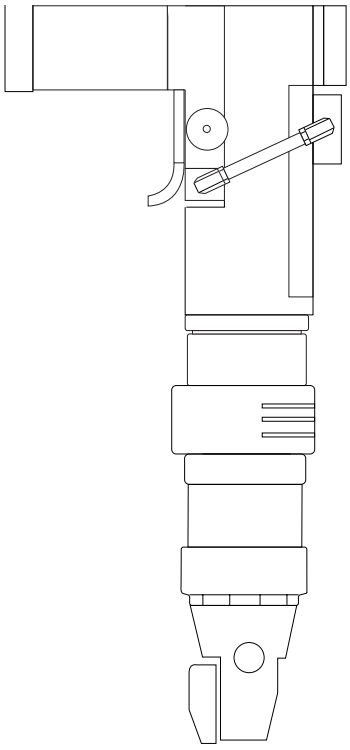
DISASSEMBLY

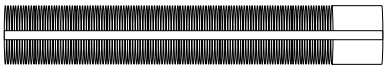
GENERAL
Remove all tubing from the tool and clamp the tool lightly on the flats of the motor housing in a soft jawed vise and loosen the lock ring, No. 619421, and unscrew the drill head from the power unit.

POWER UNIT GEAR TRAIN
Remove the lock ring. Using a suitable wrench, unscrew the internal gear, No. 613285, from the motor housing. No. 613275. The planet cage, No. 613277, or No. 612050, with the attached components may now be removed from the rear of the internal gear. Unscrewing the bevel gear, No. 614216, will allow the removal of the front planet cage bearing, No. 864471, and the planet cage washer. By pulling the three (3) planet gear pins, No. 613279, out of the front of the planet cage, the planet gears may be removed.

MOTOR UNIT
To remove the motor unit from the motor housing, invert the tool in the vise. Loosen the handle nut, No. 613283, and remove the handle. The complete motor unit may now be slipped out through the rear of the motor housing. Unscrew the governor (Left Hand Threads) and remove the rear bearing plate, No. 613241, from the shaft. Remove the rotor shaft retainer, No. 843618, and using a soft mallet tap the rotor shaft out of the front rotor bearing, No. 613248. This will allow the front bearing plate, No. 613273, the cylinder, No. 613225, rotor blades, No. 613236, and the rotor, No. 613234, to be removed. Remove the two (2) keys, No. 863365, from the rotor shaft, No. 613274, and clamp it in the vise with the governor up. To remove the front rotor bearing from the front bearing plate for inspection, the rotor bearing retainer, No. 613294, (Left Hand Treads) must be unscrewed first.

DRILL HEAD
To disassemble the drill head, unscrew the four (4) stop body screws, No. 617245, and remove the stop body, No. 624106, with its attached components. Loosen the two (2) set screws No. 202583, and remove the gear stop. Removing the three (3) piston body screw, No. 624651, will allow the cylinder, No. 624618, and attached components to be removed from the housing. Unscrew the three (3) cover screws, No. 847688, and remove housing cover, No. 624636, with its attached components. By tapping the housing on a soft block of wood, the bevel gear, No. 614217, and attached bearing, No. 864471, may be removed.





INSTALL SPINDLE FROM THIS DIRECTION ONLY.

⚠ WARNING **Eye protection must be worn when disassembling tool or when air line is turned on. A self relieving valve in close proximity to the repair station to bleed off air is recommended.**

SERVICE INSTRUCTIONS

REASSEMBLY

GENERAL
The tool is reassembled in the reverse order of disassembly. Wash all parts thoroughly and inspect for wear or damage before reassembly.

MOTOR UNIT
Rotor bladesshould be replaced at every repair cycle or if worn as much as 1/16" below the rotor surface.

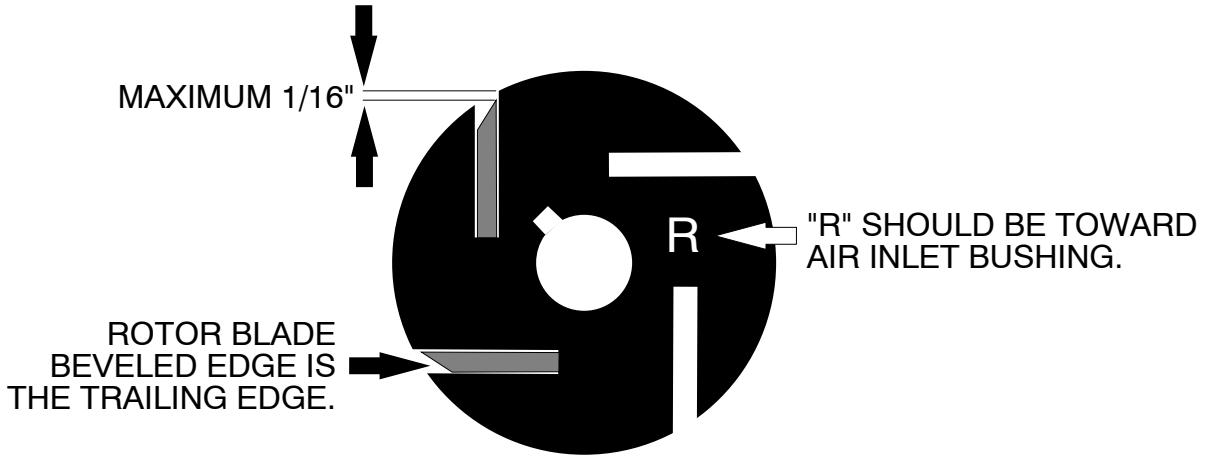
NOTE: The beveled edge of the blade is the trailing edge. The rotor, No. 613234, and the cylinder, No. 613225, should have the "**R**" to the rear to insure clockwise rotation.

POWER UNIT GEAR TRAIN
As the internal gear components and the gear housing components are assembled, a generous coating of No.2 Moly grease should be applied to all parts. The tang end of the planet gear pins must be toward the front of the planet cage so that the planet cage washer will lock them in place.

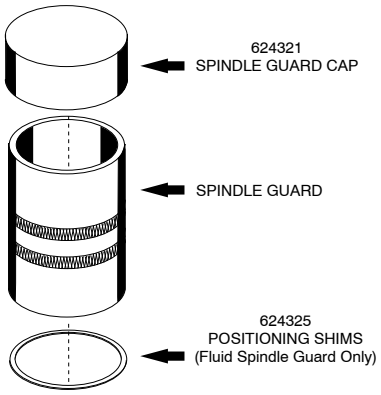
DRILL HEAD
The spindle should be installed from the drive gear side. The design of this tool is such that shims are not required to set the bevel gears. Correct engagement of the bevel gears is obtained by running the power unit at a very slow R.P.M. and screwing it into the drill head until the gear interference is felt. Back the power unit off approximately 1/8" turn or until there is no gear interference and screw down the locking ring, No. 619421. By following this procedure maximum gear engagement is obtained. After the tool is assembled place a few drops of 10W machine oil in the air inlet before attaching the air hose. This will insure immediate lubrication of all the parts as soon as the air is applied.

GEAR STOP ADJUSTMENT (158Q Gear Box)
In order to make the adjustment, there are two methods that can be used. The preferred method is to make the adjustment during assembly of drill before the retract body and it's related components are attached to the angle head. With the 624620 gear stop in position with the 624614 clutch rollers positioned on top of the cam lobes, rather than in the detents, the 202583 set screws are turned clockwise until the springs begin to make up solid, but are not crushed or distorted. The screws are then rotated counterclockwise 90 degrees to 180 degrees. By using this method, it is easier to determine when the spring makes up solid so that there is less tendency to force the screw in to deep and damage the springs.

If the adjustment is to be performed with the drill fully assembled, the clutch rollers will normally be resting in the detents. The screws are then rotated in the clockwise direction until the springs just begin to go solid. Care must be taken not to distort the springs. Once the solid state is achieved, the set screws are backed out (counterclockwise) 2-1/4 full turns plus the 90 degrees to 180 degrees. **Important:** Too much tension can result in damage to gears.



SPINDLE GUARD CHARTS



GUARDS FOR SOLID SPINDLES		GUARDS FOR FLUID SPINDLES	
PART NUMBER	**LENGTH**	**PART NUMBER**	**LENGTH**
624360	1"	624375	2"
624361	2"	624376	3"
624362	3"	624322	4"
624103	4"	624377	5"
624363	5"	624323	6"
624104	6"	624376	7"

INCLUDES SPINDLE GUARD CAP PART NO. 624321 WITH BOTH SOLID AND FLUID SPINDLE GUARDS.

INCLUDES (4) .010" SPINDLE GUARD POSITIONING SHIMS PART NO. 624321 WITH FLUID SPINDLE GUARDS ONLY.

FEED CHART FOR 158 RIGHT ANGLE DRILL

FEED PER REVOLUTION	SPINDLE FEED GEAR	NUMBER OF TEETH	DIFFERENTIAL FEED GEAR	NUMBER OF TEETH	SPINDLE THREAD PER INCH	STOP COLLAR
.0005	615677	67	624642	65	18	613365
.001	615893	50	624643	49	18	613365
.002	615894	44	617356	44	18	613365
.0035	615895	43	617356	44	18	613365
.0055	615896	48	615900	51	18	613365
.0075	617262	42	617358	46	18	613365

CONVERSION CHART FOR CHANGING 158RAC TO 158RAD

FEED PER REVOLUTION	CONVERSION KIT NUMBER
.0005	621920-8
.001	621921-6
.002	621922-4
.0035	621922-4
.0055	621923-2
.0075	621924-0

Parts included in Conversion Kit:

Two (2) Screws
Two (2) Clutch Rollers
Two (2) Clutch Plunger
One (1) Piston
Two (2) Flat Head Cap Screws
One (1) Cylinder
One (1) Bushing
One (1) Gear Stop
One (1) Housing
One (1) Bearing
One (1) Housing Cover
One (1) Thrust Washer
One (1) Differential Feed Gear
Three (3) Flat Head Cap Screws
Two (2) Spring

POWER UNIT & GOVERNOR CHARTS

47 Thru 120 SPINDLE RPM & 175 Thru 445 POWER UNIT RPM

POWER UNIT CODE NO.	GOVERNOR	GOVERNOR SPRING	GOVERNOR WEIGHT	POWER UNIT RPM	SPINDLE RPM
621371	611236	613370	613373	445	120
621370	611237	613371	613373	380	94
621369	611238	613370	613372	265	70
621368	611239	613369	613372	215	56
621367	611240	613368	613372	175	47
621372*	611240*	613368*	613372*	175/445*	47/120*

***POWER UNIT WITH VARIABLE SPEED BACKHEAD**

92 Thru 230 SPINDLE RPM & 350 Thru 850 POWER UNIT RPM

POWER UNIT CODE NO.	GOVERNOR	GOVERNOR SPRING	GOVERNOR WEIGHT	POWER UNIT RPM	SPINDLE RPM
621456	611236	613370	613373	850	230
621455	611237	613371	613373	700	185
621454	611238	613370	613372	525	140
621453	611239	613369	613372	470	110
621452	611240	613368	613372	350	92
621457*	611240*	613368*	613372*	350/850*	92/230*

***POWER UNIT WITH VARIABLE SPEED BACKHEAD**

194 Thru 485 SPINDLE RPM & 750 Thru 1800 POWER UNIT RPM

POWER UNIT CODE NO.	GOVERNOR	GOVERNOR SPRING	GOVERNOR WEIGHT	POWER UNIT RPM	SPINDLE RPM
611902	611236	613370	613373	1800	485
611903	611237	613371	613373	1500	388
611904	611238	613370	613372	1100	288
611905	611239	613369	613372	900	232
611906	611240	613368	613372	750	194
611908*	611240*	613368*	613372*	750/1800*	194/485*

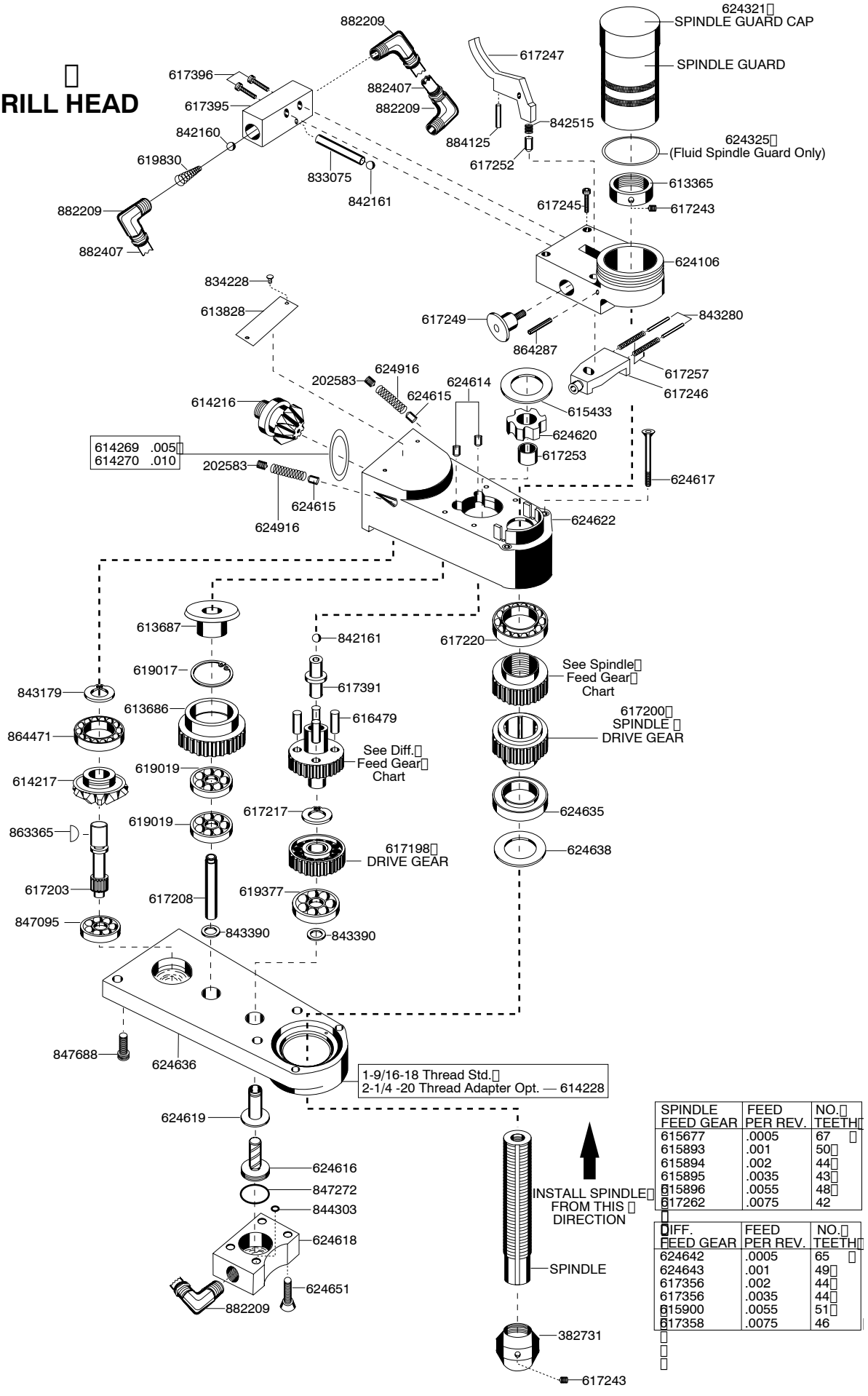
***POWER UNIT WITH VARIABLE SPEED BACKHEAD**

380 Thru 950 SPINDLE RPM & 1450 Thru 3600 POWER UNIT RPM

POWER UNIT CODE NO.	GOVERNOR	GOVERNOR SPRING	GOVERNOR WEIGHT	POWER UNIT RPM	SPINDLE RPM
621365	611236	613370	613373	3600	950
621364	611237	613371	613373	2900	760
621157	611238	613370	613372	2175	570
621159	611239	613369	613372	1745	460
621160	611240	613368	613372	1450	380
621366*	611240*	613368*	613372*	1450/3600*	380/950*

***POWER UNIT WITH VARIABLE SPEED BACKHEAD**

DRILL HEAD



SPINDLE FEED GEAR	FEED PER REV.	NO. TEETH
615677	.0005	67
615893	.001	50
615894	.002	44
615895	.0035	43
615896	.0055	48
617262	.0075	42

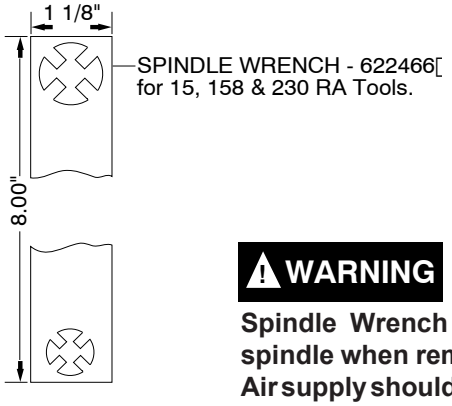
DIFF. FEED GEAR	FEED PER REV.	NO. TEETH
624642	.0005	65
624643	.001	49
617356	.002	44
617356	.0035	44
615900	.0055	51
617358	.0075	46

PARTS LIST FOR 158 RIGHT ANGLE HEAD

PART NO.	NAME OF PART	QTY.	PART NO.	NAME OF PART	QTY.
202583	SET SCREW	2	624106	STOP BODY	1
382731*	BEVELED STOP COLLAR	1	624321*	SPINDLE GUARD CAP	1
613365*	STOP COLLAR	1		(INCL. IN SPINDLE GUARD)	
613686	IDLER GEAR	1	624325*	SPINDLE GUARD SHIMS .010"	4
613687	IDLER GEAR SPACER	1		(INCL. IN FLUID SPINDLE GUARD)	
613828	NAME PLATE	1	624614	CLUTCH ROLLER	2
614216	BEVEL PINION	1	624615	CLUTCH PLUNGER	2
614217	BEVEL GEAR	1	624616	PISTON	1
614228	OPTIONAL NOSE ADAPTER (2-1/4-20)	1	624617	ALLEN CAP SCREW	2
614269	SHIM .005	*	624618	CYLINDER	1
614270	SHIM .010	*	624619	FEED GEAR BUSHING	1
615433	THRUST RACE	1	624620	GEAR STOP	1
616479	PIN (INCL. IN DIFF. FEED GEAR)	4	624622	HOUSING	1
617198	DRIVE GEAR	1	624635	BALL BEARING	1
617200	SPINDLE DRIVE GEAR	1	624636	HOUSING COVER	1
617203	PINION GEAR	1	624638	THRUST RACE	1
617208	IDLER SHAFT	1	624651	FLAT HEAD SCREW	3
617217	RETAINER RING	1	624916	CLUTCH ADJUSTMENT SPRING	2
617220	BALL BEARING	1	833075	PUSH ROD	1
617243*	SCREW 8-32 X 3/16"	2	834228	DRIVE SCREW	2
617245	ALLEN CAP SCREW	4	842160	BALL 7/32"	1
617246	CAM	1	842161	BALL 3/16"	2
617247	TRIGGER (INCL. 884125)	1	842515	REVERSE STOP SPRING	1
617249	KNOB	1	843179	RETAINER RING	1
617252	PLUNGER TRIGGER	1	843280	DOWEL PIN	2
617253	NEEDLE BEARING	1	843390	DRIVE GEAR SPACER	2
617257	CAM SPRING	2	844303	"O"-RING 3/16" X 5/16"	1
617391	CAM FOLLOWER	1	847095	BALL BEARING	1
617395	VALVE BODY	1	847272	"O"-RING 1/16" X 3/4"	1
617396	ALLEN CAP SCREW	2	847688	ALLEN CAP SCREW	3
619017	RETAINER RING	1	863365	WOODRUFF KEY	1
619019	BALL BEARING	2	864287	TRIGGER DOWEL PIN	1
619377	BALL BEARING	1	864471	BALL BEARING	1
619830	SPRING	1	882209	TUBING ELL	4
622466*	SPINDLE WRENCH	1	882407	AIR LINE	2
			884125	RETRACT LEVER PIN	1

RIGHT ANGLE HEAD SUBASSEMBLIES	
FEED RATE	**PART NO.**
.0005	621914
.001	621915
.002	621916
.0035	621917
.0055	621918
.0075	621919

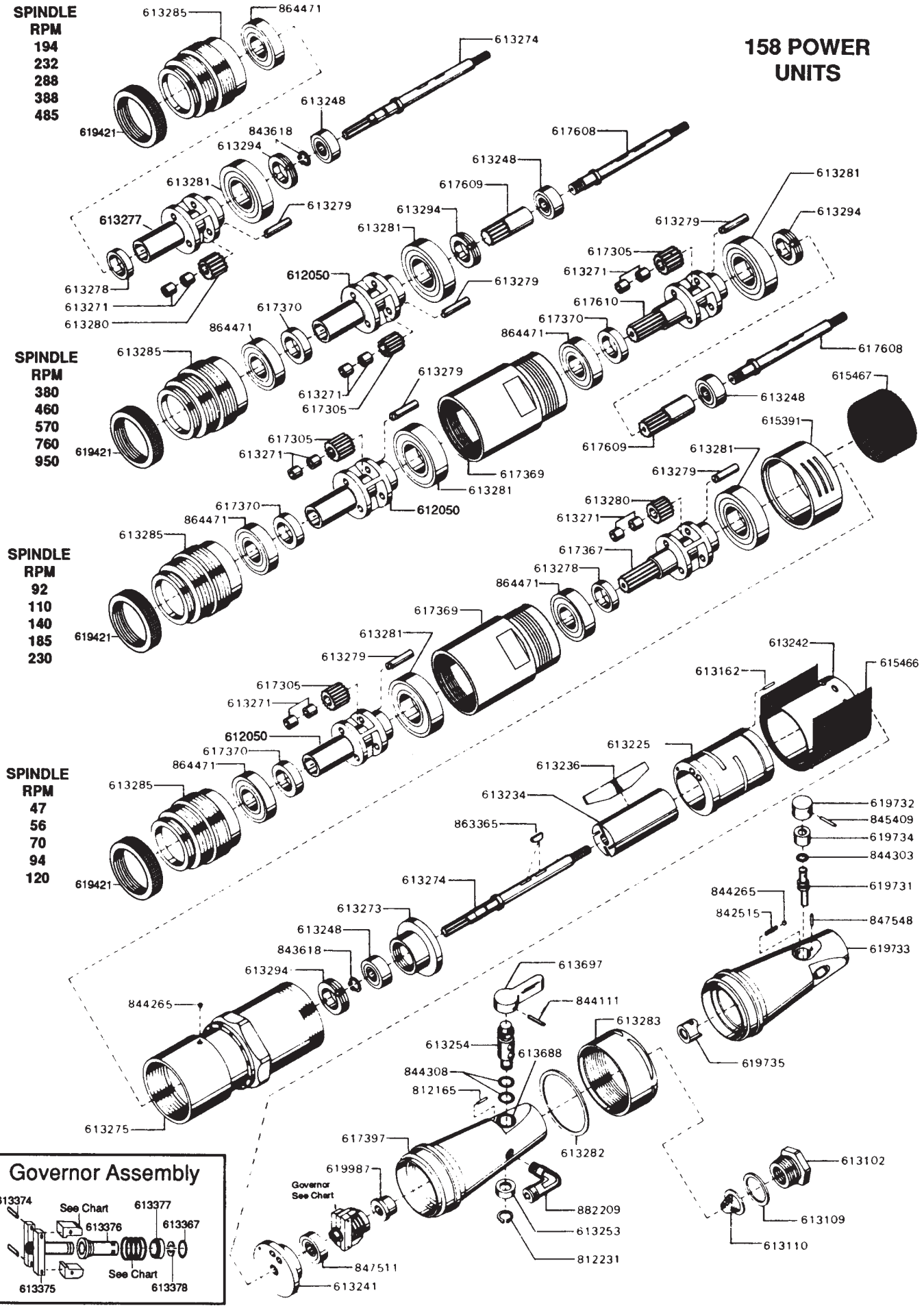
* Parts not included in right angle head subassemblies.



⚠ WARNING

Spindle Wrench is used to hold spindle when removing cutters. Air supply should be disconnected from tool before spindle wrench is used.

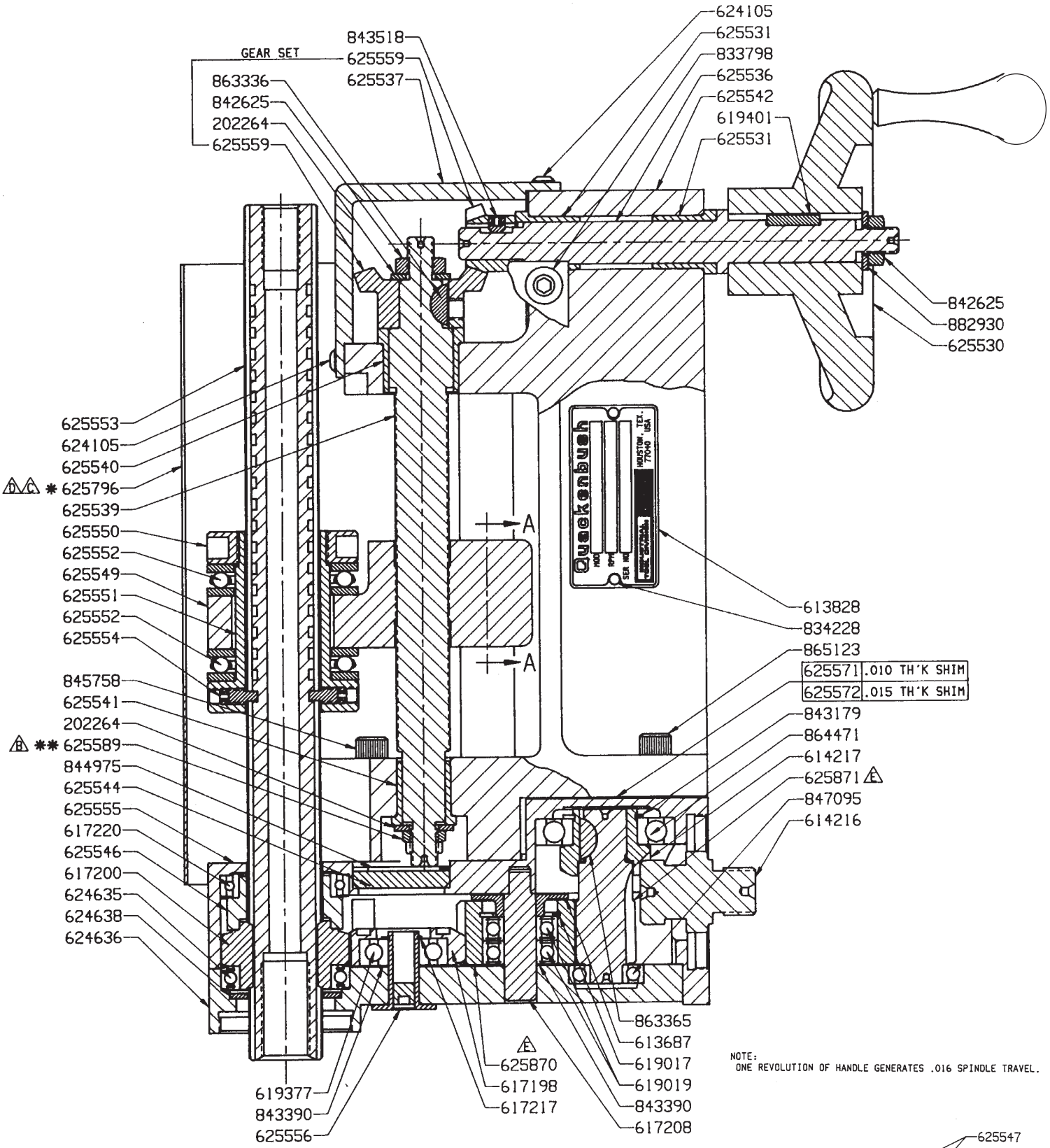
158 POWER UNITS

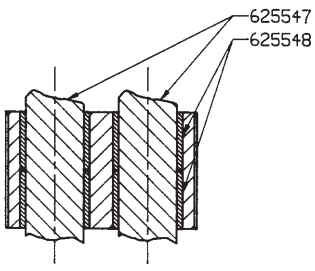


PARTS LIST FOR POWER UNITS

PART NO.	NAME OF PART	SPINDLE RPM RANGES	QUANTITY 47 56 70 94 120	92 110 140 185 230	194 232 288 388 485	380 460 570 760 950
612050	PLANET CAGE		1	1	-	1
613102	INLET BUSHING		1	1	1	1
613109	GASKET		1	1	1	1
613110	AIR SCREEN		1	1	1	1
613162	CYLINDER PIN		1	1	1	1
613225	CYLINDER		1	1	1	1
613234	ROTOR		1	1	1	1
613236	ROTOR BLADE		4	4	4	4
613241	REAR BEARING PLATE		1	1	1	1
613242	SLEEVE		1	1	1	1
613248	FRONT ROTOR BEARING		1	1	1	1
613253	THROTTLE VALVE WASHER		1	1	1	1
613254	THROTTLE VALVE (INCL. 812165)		1	1	1	1
613271	PLANET WHEEL BEARING		12	12	6	6
613273	FRONT BEARING PLATE		1	1	1	1
613274	ROTOR SHAFT		1	-	1	-
613275	MOTOR HOUSING		1	1	1	1
613277	PLANET CAGE		-	-	1	-
613278	PLANET CAGE WASHER		1	-	1	-
613279	PLANET WHEEL PIN		6	6	3	3
613280	PLANET WHEEL		3	-	3	-
613281	PLANET CAGE BEARING		2	2	1	1
613282	CLAMP RING		1	1	1	1
613283	HANDLE NUT		1	1	1	1
613285	INTERNAL GEAR		1	1	1	1
613294	BEARING RETAINER NUT		1	1	1	1
613367	RETAINER RING		1	1	1	1
613374	GOVERNOR WEIGHT PIN		2	2	2	2
613375	GOVERNOR SPIDER		1	1	1	1
613376	GOVERNOR VALVE		1	1	1	1
613377	GOVERNOR SPRING CAP		1	1	1	1
613378	GOVERNOR SPRING RETAINER		2	2	2	2
613688	BUSHING		1	1	1	1
613697	TRIGGER		1	1	1	1
615391	EXHAUST DEFLECTOR		1	1	1	1
615466	MUFFLER SCREEN		1	1	1	1
615467	MUFFLER SCREEN		1	1	1	1
617305	PLANET WHEEL		3	6	-	3
617367	PLANET CAGE		1	-	-	-
617369	INTERNAL GEAR AND HOUSING		1	1	-	-
617370	PLANET CAGE WASHER		1	2	-	1
617397	HANDLE (INCL. 613688, 619987)		1	1	1	1
617608	ROTOR SHAFT		-	1	-	1
617609	PINION GEAR		-	1	-	1
617610	PLANET CAGE		-	1	-	-
619421	LOCK NUT		1	1	1	1
619731(V)	GOVERNOR JET CAM		1	1	1	1
619732(V)	KNOB		1	1	1	1
619733(V)	HANDLE (INCL. 613688, 842515, 844265, 847548)		1	1	1	1
619734(V)	CAM BUSHING		1	1	1	1
619735(V)	GOVERNOR JET		1	1	1	1
619987	GOVERNOR JET		1	1	1	1
812165	PIN		1	1	1	1
812231	RETAINER RING		1	1	1	1
842515(V)	SPRING		1	1	1	1
843618	SHAFT RETAINER RING		1	-	1	-
844111	TRIGGER PIN		1	1	1	1
844265	STEEL BALL (1/8") - (VARIABLE SPEED REQUIRES 3)		2	2	2	2
844303(V)	"O"-RING 3/16" X 5/16"		1	1	1	1
844308	"O"-RING 3/8" X 9/16"		2	2	2	2
845409(V)	KNOB PIN		1	1	1	1
847511	REAR ROTOR BEARING		1	1	1	1
847548(V)	PIN		1	1	1	1
863365	ROTOR KEY		2	2	2	2
864471	PLANET CAGE BEARING		2	2	1	1
882209	AIR FITTING		1	1	1	1
	NOTE: (V) — VARIABLE SPEED UNITS ONLY.					

HAND FEED CONVERSION KIT





SECTION "A-A"

*** INCLUDES WARNING LABEL 203246**

B ** ASSEMBLE WITH 271 LOCTITE

Component	Description	Qty
202264	THRUST RACE	2
613687	SPACER	1
613828	NAME PLATE	1
614216	PINION H-SK-596	1
614217	GEAR H-SK-596	1
617198	DIFFERENTIAL DRIVE GEAR	1
617200	SPINDLE DRIVE GEAR	1
617208	SHAFT,IDLER	1
617217	RETAINER RING	1
617220	BALL BEARING H-SK-596	1
619017	RING, RETAINING	1
619019	BEARING, BALL	2
619377	BEARING, BALL	1
619401	KEY	1
624105	SCREW	4
624635	BEARING	1
624636	HOUSING COVER	1
624638	THRUST WASHER	1
625530	HAND WHEEL	1
625536	DRIVE SHAFT	1
625537	COVER	1
625539	FEED SHAFT	1
625542	HAND CRANK BODY	1
625544	HOUSING PLUG	1
625546	SPINDLE SPACER	1
625547	GUIDE PILLAR	2
625549	FEED BLOCK	1
625550	BEARING BLOCK	1
625551	BEARING BLOCK	1
625552	THRUST BEARING	2
625553	DRIVE SPINDLE	1
625555	HOUSING	1
625556	BUSHING	1
625559	BEVEL GEAR SET	1
625571	SHIM (.010 TH'K)	1
625572	SHIM (.015 TH'K)	1
625589	FLEXLOC NUT	1
625781	NOSE, SPECIAL	1
625796	SPINDLE GUARD, FLUID	1
833798	SCREW, ALLEN CAP	4
834228	SCREW, DRIVE	2
842625	NUT, HEX	2
843179	RETAINER RING	1
843390	SPACER	2
844975	RETAINER RING	1
845758	SCREW, SHC	2
847095	BEARING, BALL	1
863336	ECC SHAFT KEY	1
863365	KEY, WOODRUFF	1
864471	BEARING, BALL	1
865123	SCREW, SHC	2
882930	WASHER	1
614244	ADAPTER	1
619123	SPACER	1
625870	IDLER GEAR	1
625871	PINION & SHAFT	1
845090	PIN, ROLL	1
847688	SCREW, SHC	3

Sales & Service Centers

Note: All locations may not service all products. Please contact the nearest Sales & Service Center for the appropriate facility to handle your service requirements.

Dallas, TX
Apex Tool Group
Sales & Service Center
1470 Post & Paddock
Grand Prairie, TX 75050
Tel: 972-641-9563
Fax: 972-641-9674

Detroit, MI
Apex Tool Group
Sales & Service Center
2630 Superior Court
Auburn Hills, MI 48326
Tel: 248-391-3700
Fax: 248-391-7824

Houston, TX
Apex Tool Group
Sales & Service Center
6550 West Sam Houston
Parkway North, Suite 200
Houston, TX 77041
Tel: 713-849-2364
Fax: 713-849-2047

Lexington, SC
Apex Tool Group
670 Industrial Drive
Lexington, SC 29072
Tel: 800-845-5629
Tel: 803-951-7544
Fax: 803-358-7681

Los Angeles, CA
Apex Tool Group
Sales & Service Center
15503 Blackburn Avenue
Norwalk, CA 90650
Tel: 562-623-4457
Fax: 562-802-1718

Seattle, WA
Apex Tool Group
Sales & Service Center
2865 152nd Avenue N.E.
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Tel: 425-497-0476
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Apex Tool Group
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3990 East Market Street
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Fax: 717-757-5063

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